

Document made available under the Patent Cooperation Treaty (PCT)

International application number: PCT/EP04/014180

International filing date: 13 December 2004 (13.12.2004)

Document type: Certified copy of priority document

Document details: Country/Office: EP
Number: 04001222.1
Filing date: 21 January 2004 (21.01.2004)

Date of receipt at the International Bureau: 17 February 2005 (17.02.2005)

Remark: Priority document submitted or transmitted to the International Bureau in compliance with Rule 17.1(a) or (b)



World Intellectual Property Organization (WIPO) - Geneva, Switzerland
Organisation Mondiale de la Propriété Intellectuelle (OMPI) - Genève, Suisse



Europäisches
Patentamt

European
Patent Office

Office européen
des brevets

13. 12. 2004

Bescheinigung

Certificate

Attestation

Die angehefteten Unterla-
gen stimmen mit der
ursprünglich eingereichten
Fassung der auf dem näch-
sten Blatt bezeichneten
europäischen Patentanmel-
dung überein.

The attached documents
are exact copies of the
European patent application
described on the following
page, as originally filed.

Les documents fixés à
cette attestation sont
conformes à la version
initialement déposée de
la demande de brevet
européen spécifiée à la
page suivante.

Patentanmeldung Nr. Patent application No. Demande de brevet n°

04001222.1

Der Präsident des Europäischen Patentamts;
Im Auftrag

For the President of the European Patent Office

Le Président de l'Office européen des brevets
p.o.

R C van Dijk



Anmeldung Nr:
Application no.: 04001222.1
Demande no:

Anmeldetag:
Date of filing: 21.01.04
Date de dépôt:

Anmelder/Applicant(s)/Demandeur(s):

ICT Integrated Circuit Testing Gesellschaft
für Halbleiterprüftechnik mbH
Ammerthalstrasse 20a
85551 Heimstetten
ALLEMAGNE

Bezeichnung der Erfindung/Title of the invention/Titre de l'invention:
(Falls die Bezeichnung der Erfindung nicht angegeben ist, siehe Beschreibung.
If no title is shown please refer to the description.
Si aucun titre n'est indiqué se referer à la description.)

Beam optical component having a charged particle lens

In Anspruch genommene Priorität(en) / Priority(ies) claimed / Priorité(s)
revendiquée(s)
Staat/Tag/Aktenzeichen/State/Date/File no./Pays/Date/Numéro de dépôt:

Internationale Patentklassifikation/International Patent Classification/
Classification internationale des brevets:

H01J9/233

Am Anmeldetag benannte Vertragsstaaten/Contracting states designated at date of
filing/Etats contractants désignées lors du dépôt:

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LU MC NL
PT RO SE SI SK TR LI

BEAM OPTICAL COMPONENT HAVING A CHARGED PARTICLE LENS

FIELD OF THE INVENTION

The invention relates to a beam optical component having a charged particle lens for focussing a charged particle beam. The invention also relates to a charged particle beam device including said beam optical component and a method for aligning said beam optical component.

BACKGROUND OF THE INVENTION

Improvements of charged particle beam devices, like electron microscopes, electron or ion beam inspection or pattern generating tools, e.g. focused ion beam devices (FIB), depend on further improvements of their beam optical components. Beam optical components include, for example, electrostatic or magnetic charged particle lenses, deflectors, beam apertures, charged particle beam sources and the like.

Charged particle lenses require a high degree of mechanical precision in order to obtain a focus spot of the smallest possible size, which is a prerequisite for obtaining the highest possible spatial resolution when inspecting or structuring a specimen. High precision focussed charged particle beams are used in charged particle beam devices like electron microscopes, pattern generators for lithographic processes in the semiconductor industry or focused ion beam devices (FIB).

Charged particle lenses usually use electrostatic or magnetic fields for focussing the charged particle beam. Charged particle lenses with electrostatic fields are usually composed